

A. Frame

With respect to claim 1, the examiner alleges that Figures 9-12 of the AAPA illustrate the frame of “a bottomed cylindrical shape.” However, the allegedly corresponding motors illustrated in Figures 9-12 do not include a frame that has a bottomed cylindrical shape.

For example, Figure 11 illustrates that motor 2 includes a frame 5. Attached at one opening of the frame 15 is a rear bracket 12 and waterproof cap 16 that encase the rotation sensor 15 and the stator 46. However, the waterproof cap and rear bracket are components that are separate and distinct from the frame 5.

As disclosed in applicants’ specification, applicants have minimized the number of component members compared to the AAPA. (See, e.g., page 8, second full paragraph). Figure 1 illustrates a non-limiting, illustrative embodiment of the bottomed cylindrical frame 31. The allegedly corresponding frame 5 of the AAPA is clearly not “bottomed.”

Additionally, the allegedly corresponding motors of Maruyama fail to include a frame. Rather, the embodiments of the motors described in Maruyama include a housings 2, 21 (Figures 2 and 6) or casings 13, 14, 14a (Figure 10). Claim 1 recites a housing and a frame.

When considering the prior art as a whole, AAPA and Maruyama, individually or in combination, fail to teach or suggest the frame of claim 1.

B. Bracket

The examiner alleges that either front bracket 9 or rear bracket 12 corresponds to the

claimed bracket. Applicants respectfully disagree.

The motor of claim 1 recites a bracket that is fixed to an opening of the frame, the rotating element extends through the (same) bracket and the rotation sensor provided on the (same) bracket at one side of the bracket side bearing near the housing. Bracket 9 or bracket 12 fail to meet all these aspects of the bracket of claim 1.

The allegedly corresponding rotation sensor 15 is not provided on bracket 9 of the motors of AAPA. On the other hand, bracket 12 is not provided near the housing. Applicants note that since the bracket bearing is mounted to the bracket, the bracket is near the housing. Accordingly, the AAPA fails to teach or suggest the claimed bracket.

Additionally, the various embodiments of motors described in Maruyama fail to teach or suggest all the aspects of the bracket of claim 1. For example, the allegedly corresponding position sensor 4 of Maruyama is provided on the output shaft 31a. (See Figures 2 and 6). Figure 10 of Maruyama does not include a bracket that is fixed to an opening of the frame and could not since Maruyama fails to teach or suggest a frame.

When considering the prior art as a whole, AAPA and Maruyama, individually or in combination, fail to teach or suggest the bracket of claim 1.

C. Rotating Element

The rotating element of claim 1 includes, *inter alia*, “a shaft rotatably supported by a frame side bearing fixedly mounted on the frame.

The examiner alleges that the rotating element 8 of AAPA corresponds to the claimed rotating element. The examiner also alleges that the shaft 7 of AAPA corresponds to the claimed shaft and that shaft 7 is supported by bearing (either 10 or 11) fixedly mounted on the frame 5.

As shown in Figure 11, the allegedly corresponding bearing 10 is mounted on front bracket 9 (not a frame) and the allegedly corresponding bearing 11 is mounted on rear bracket 12 (not a frame). Accordingly, AAPA fails to teach or suggest a rotating element having a rotatable shaft that is supported by a bearing fixedly mounted on a frame. Accordingly, applicants submit that AAPA fails to teach or suggest the above-mentioned limitations.

Applicants also note that the examiner acknowledges that AAPA does not disclose that the frame has a frame side, in which the frame side bearing is located. (Page 4, lines 1-3 of the Office action). However, the examiner alleges that Maruyama discloses a rotatable shaft 31 supported by a frame side bearing 36 fixedly mounted on the frame 2.

The motors of Maruyama fail to include a frame. Rather, for example, Figure 6 of Maruyama includes a housing 2, not a “frame” 2. The motor of claim 1 recites a frame and a housing. These components are separate and distinct and clearly understood in the art.

When considering the prior art as a whole, AAPA and Maruyama, individually or in combination, fail to teach or suggest the claimed rotating element.

Since the AAPA and Maruyama, individually or in combination, fail to teach or suggest the claimed frame, the claimed bracket and the claimed rotating element, the applied art could not possibly teach or suggest the remaining limitations of the motor or claim 1.

For at least these reasons, the examiner has failed to establish a *prima facie* case of obviousness.

Additionally, the examiner alleges that it would have been obvious, at the time of the invention, to modify the motor of AAPA and provide it with the frame and sensor configuration disclosed in Maruyama “for the purpose of improving the detection of the angular position of the rotor.”

As stated above, Maruyama fails to even teach a frame configuration. Notwithstanding, the frame and sensor configuration of Maruyama has nothing to do with improving the detection of the angular position of the rotor. Accordingly, the reasons provided by the examiner stem from *impermissible* hindsight in an attempt to reconstruct the motor of claim 1.

Maruyama describes that in prior art systems the rotor of an electromagnetic motor is deflectable in the radial direction. (Col. 1, line 60 – col. 2, line 2). Accordingly, as described, Maruyama provides a permanent magnetic 38 which serves to return the rotor 33 to its initial position as well as to bias the rotor 33 radially for preventing it from radially deflecting. (Col. 6, lines 16-27). Thus, Maruyama describes all the embodiments with respect to the mechanism for returning the rotor 17 to the initial angular position.

Maruyama fails to teach any advantages associated with the rotor being supported by bearings 18, 19 with respect to front and rear casings 18 and 19 or the position of the allegedly corresponding rotation sensor 43. Applicants respectfully disagree that one skilled in the art, with no knowledge of the present invention, would have combined this aspect of Maruyama with AAPA, for the reasons provided by the examiner.

Since the motivation to combine these references cannot be objectively traced from the applied art, one skilled in the art, at the time of the invention, would not have identified and combined the specific reference teachings of each reference, as alleged by the examiner, in the manner claimed by applicants.

For at least these reasons, applicants submit the examiner has failed to establish a *prima facie* case of obviousness under 35 U.S.C. § 103. Accordingly, applicants respectfully request that the rejection to claim 1 be withdrawn. Claims 2, 3, 6 and 12 are patentable at least by virtue of their dependency on claim 1, as well as reciting their own patentably distinct features.

Rejection of Claims 4, 5 and 11 under 35 U.S.C. § 103(a) - AAPA, Maruyama, Yamada

The examiner has rejected claims 4, 5 and 11 under 35 U.S.C. § 103(a) as allegedly being unpatentable over AAPA, in view of Maruyama as applied to claim 3, and further in view of U.S. Patent No. 5,801,465 (hereinafter Yamada). Applicants respectfully traverse this rejection.

Yamada fails to cure the deficiencies of AAPA and Maruyama, as applied to claim 1. The underwater motor of Yamada fails to teach or suggest any of the aspects of the motor of claim 1. (See Figures 2-4, 6 and 8). AAPA, Maruyama and Yamada, individually or in combination, fail to teach or suggest all the limitations of claim 1.

Claims 4, 5 and 11 are patentable at least by virtue of their dependency on claim 1, as well as reciting their own patentably distinct features. Applicants respectfully request that the rejection of claims 4, 5 and 11 be withdrawn.

Rejection of Claims 7-10 under 35 U.S.C. § 103(a) - AAPA, Maruyama, Hirose

The examiner has rejected claims 7-10 under 35 U.S.C. § 103(a) as allegedly being unpatentable over AAPA, in view of Maruyama as applied to claim 1, and further in view of U.S. Patent No. 5,793,132 (hereinafter Hirose). Applicants respectfully traverse this rejection.

Hirose fails to cure the deficiencies of AAPA and Maruyama, as applied to claim 1. Hirose fails to teach or suggest the frame, bracket or the rotating element of claim 1, as well as the remaining limitations of claim 1. AAPA, Maruyama and Hirose, individually or in combination, fail to teach or suggest all the limitations of claim 1.

Claims 7-10 are patentable at least by virtue of their dependency on claim 1, as well as reciting their own patentably distinct features. Applicants respectfully request that the rejection of claims 7-10 be withdrawn.

Rejection of Claim 13 under 35 U.S.C. § 103(a) - AAPA, Maruyama, Chestnut

The examiner has rejected claims 13 under 35 U.S.C. § 103(a) as allegedly being unpatentable over AAPA, in view of Maruyama as applied to claim 2, and further in view of U.S. Patent No. 3,558,940 (hereinafter Chestnut). Applicants respectfully traverse this rejection.

Chestnut fails to cure the deficiencies of AAPA and Maruyama, as applied to claim 1. Chestnut fails to teach or suggest the frame, bracket or the rotating element of claim 1, as well as the remaining limitations of claim 1. AAPA, Maruyama and Chestnut, individually or in combination, fail to teach or suggest all the limitations of claim 1.

Claim 13 is patentable at least by virtue of its dependency on claim 1, as well as reciting its own patentably distinct features. Applicants respectfully request that the rejection of claim 13 be withdrawn.

Rejection of Claims 1-3, 6 and 12 under 35 U.S.C. § 103(a) - Tominaga, AAPA

The examiner has rejected claims 1-3, 6 and 12 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,577,030 (hereinafter Tominaga), further in view of AAPA. Applicants respectfully traverse this rejection.

Applicants note that Tominaga and the present application were, at the time of the invention was made, owned by, or subject to an obligation of assignment to, the same person. Therefore, the application of Tominaga under a §102(e)/ §103(a) rejection is improper. Applicants also note that Tominaga fails to qualify as prior art under §102(a) and §102(b). The corresponding foreign application of Tominaga was published on April 23, 2002. The U.S. application of Tominaga was published on May 23, 2002. The present application has a U.S. filing date of November 19, 2001.

Accordingly, since AAPA fails to teach or suggest all the limitations of claim 1, as remarked above, applicants respectfully request that the rejection of claims 1-3, 6 and 12 be withdrawn.

Rejection of Claims 4, 5 and 11 under 35 U.S.C. § 103(a) - AAPA, Tominaga, Yamada

The examiner has rejected claims 4, 5 and 11 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tominaga, in view of AAPA, and further in view of Yamada. Applicants respectfully traverse this rejection.

For at least the reasons provided above, AAPA and Yamada, individually or in combination, fail to render obvious claim 1. Claims 4, 5 and 11 are patentable at least by virtue of their dependency on claim 1, as well as reciting their own patentably distinct features.

Rejection of Claims 7-10 under 35 U.S.C. § 103(a) - Tominaga, AAPA, Hirose

The examiner has rejected claims 7-10 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tominaga, in view of AAPA, and further in view of Hirose. Applicants respectfully traverse this rejection.

For at least the reasons provided above, AAPA and Hirose, individually or in combination, fail to render obvious claim 1. Claims 7-10 are patentable at least by virtue of their dependency on claim 1, as well as reciting their own patentably distinct features.

Rejection of Claim 13 under 35 U.S.C. § 103(a) - Tominaga, AAPA, Chestnut

The examiner has rejected claim 13 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tominaga, in view of AAPA, and further in view of Chestnut. Applicants respectfully traverse this rejection.

For at least the reasons provided above, AAPA and Chestnut, individually or in combination, fail to render obvious claim 1. Claim 13 is patentable at least by virtue of its dependency on claim 1, as well as reciting its own patentably distinct features.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

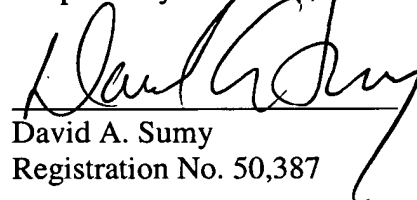
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